ALASKA

FOREST SERVICE RESEARCH AND DEVELOPMENT

STATE FUNDING HISTORY	Enacted FY 2003 ($)	Enacted FY 2004 ($)	Pres. Budg. FY 2005 ($)
ANCHORAGE			
PNW-4869 Forest Inventory and Analysis	2,697,000	3,359,000	3,359,000
PNW-4577 Managing Disturbance Regimes	80,000	31,000	31,000
PNW-4XXX Communications & Applications	0	131,000	131,000
ANCHORAGE TOTAL	2,777,000	3,521,000	3,521,000
FAIRBANKS			
PNW-4362 Ecosystem Processes	544,000	521,000	521,000
PNW-4XXX Communications & Applications	0	18,000	18,000
FAIRBANKS TOTAL	544,000	539,000	539,000
JUNEAU			
PNW-4261 Aquatic and Land Interactions	1,641,000	1,329,000	1,529,000
PNW-4362 Ecosystem Processes	725,000	693,000	693,000
PNW-4163 Resource Mgmt. & Productivity	726,000	792,000	792,000
PNW-4166 Focused Science Delivery	0	101,000	100,000
PNW-SDO Alaska Issue Coordination	266,000	261,000	261,000
PNW-4865 Human & Natural Res. Interactions	244,000	405,000	405,000
PNW-4577 Managing Disturbance Regimes	50,000	99,000	99,000
PNW-4XXX Communications & Applications	0	130,000	130,000
JUNEAU TOTAL	3,652,000	3,810,000	4,010,000
SITKA			
PNW-4865 Human & Natural Res. Interactions	1,102,000	1,086,000	1,086,000
PNW-4XXX Communications & Applications	0	37,000	37,000
SITKA TOTAL	1,102,000	1,123,000	1,123,000
ALASKA TOTAL	8,075,000	8,993,000	9,193,000

RESEARCH & DEVELOPMENT, a division of the USDA Forest Service (FS R&D), strives to be the "go to" organization for information and solutions to sustain forests and rangelands and the values they provide people. FS R&D has the flexibility to address today's issues effectively and to respond to tomorrow's needs. Among the world's leaders in forest conservation research, scientists contribute to the stewardship of land, real property and society by providing research results that help create jobs and affordable homes, and improve the health of trees, forests and forest ecosystems.

Innovative research products permit the Forest Service and other public and private land managers to monitor and manage forest responses to environmental change, contributing significantly to the sustainability of the nation's forests and rangelands and improving human health.

FS R&D operates six research stations, the Forest Products Laboratory, and the International Institute of Tropical Forestry located in Puerto Rico. It employs over 500 scientists and hundreds of technical and support personnel at 67 field sites throughout the nation. The FY 2005 President's Budget includes $280,654,000 for Forest and Rangeland Research.

The Pacific Northwest Station, (http://www.fs.fed.us/pnw/), headquartered in Portland, Oregon, maintains research and development programs located in Oregon, Washington, and Alaska. The FY 2005 President's Budget is $43,435,000 for the Pacific Northwest Research Station.

ANCHORAGE

PNW-4869, Forest Inventory and Analysis. This program conducts a multi-resource inventory of renewable natural resources of the forestlands of Alaska. The unit: (1) collects information on current status, condition, and extent of forest ecosystems, estimates use and productivity, and assesses past, current, and future trends; (2) produces state-level evaluations and reports, regional analyses, and national assessments and studies of critical issues; (3) analyzes renewable resource use and forest industry production; and (4) develops improved resource inventory techniques.

PNW-4577, Managing Disturbance Regimes. In southcentral Alaska, research is developing pheromone and silvicultural approaches to reduce adverse impacts of the spruce beetle; options for managing landscapes impacted by insect epidemics; and an understanding of disturbance and succession processes.

PNW-4XXX, Communications and Application Program. Our new Communications and Application Program will meet the changing communication expectations of external and internal customers while giving station products high visibility.

FAIRBANKS

PNW-4362, Ecosystem Processes. This program operates as a research cooperative with the University of Alaska, Fairbanks. The forest resources of Alaska's interior are affected by climate, disturbance such as fire, and the vast area of discontinuous permafrost. Long Term Ecological Research (LTER), addressed in part through a PNW research cooperative, will lead to predictive models of the interactions among these factors at the landscape level to make realistic predictions of resource availability, and develop management strategies.

PNW-4577, Managing Disturbance Regimes. This program operates in cooperation with Department of Interior agencies and the University of Alaska, Fairbanks. Research is focused on predicting moisture dynamics, flammability, and fire danger in the deep organic soil layers that dominate fire effects in the boreal region.

PNW-4XXX, Communications and Application Program. Our new Communications and Application Program will meet the changing communication expectations of external and internal customers while giving station products high visibility.

JUNEAU

PNW-4261, Aquatic and Land Interactions. Research addresses significant issues of: (1) hill slope stability and the effects of landslides and floods on forest streams and aquatic habitat; (2) fish habitat, especially in relation to interactions between salmon production and logging; (3) role of large wood and trees in streams and the effects of streams on riparian vegetation; and (4) habitat relations of riparian birds and mammals. The research is primarily directed at the forest ecosystems of southeastern Alaska.

PNW-4362, Ecosystem Processes. Research addresses significant issues of: (1) improving wildlife habitat with silviculture in young-growth forests of southeast Alaska; (2) developing food-based habitat evaluation models for black-tailed deer and moose in Alaska; (3) testing the conservation strategy of the Tongass Land Management Plan; and (4) determining the role of large herbivores in controlling the structure and function of Alaska ecosystems. The research is directed at forest ecosystems throughout the state of Alaska.

PNW-4163, Resource Management and Productivity. The program applies ecological knowledge to develop silvicultural practices that maintain or enhance a wide range of forest values—including timber, soil productivity, fisheries, wildlife habitat, biological diversity, and visual quality. This work is cooperative and multi-disciplinary, and includes studies of (1) alternatives to clear cutting in old-growth forests; (2) management of young-growth stands for multiple values; (3) growth and development of forests regenerating on wetland soils; (4) effects of thinning and pruning on growth and yield, wood quality, and under story vegetation; (5) soil moisture effects on forest productivity; and (6) yellow cedar decline and regeneration. Many of these studies are conducted with the close cooperation of the Alaska Region of the Forest Service and several Alaska Native Corporations.

PNW-4865, Human and Natural Resources Interactions. The mission of the newly created Juneau Social Science Team is to "provide scientific and technical support on topics important to Alaska's communities including recreation, tourism, and other values and uses of natural resources, and community change". The focus is state-wide and efforts are underway to complete an integrated social science research agenda for Alaska. This agenda anticipates developing a network of practitioners and researchers doing inter-related, mutually informative work.

PNW-4577, Managing Disturbance Regimes. Conducts research in southeast Alaska, on how tree pathogens influence forest structure, and how timber harvesting, other management practices and disturbances affect these processes.

PNW-4XXX, Communications and Application Program. Our new Communications and Application Program will meet the changing

communication expectations of external and internal customers while giving station products high visibility.

Sitka Wood Utilization Center. Alaska has an enormous wood resource that can contribute to societal needs for wood products. The objective of the Wood Utilization Center is to identify and evaluate opportunities for a viable forest products industry in Alaska. Scientists are studying markets for Alaska's commercial forest products including evaluation of the retail market for locally produced high value products.

FY 2005 PROGRAM CHANGES:

- Healthy watersheds. The PNW Research Station is developing new planning and evaluation tools to help land managers blend projects designed to restore aquatic and riparian ecosystems and increase cost effectiveness in achieving aquatic and riparian management goals while reducing trade-offs with other resource uses and values.
- Determine risks to quality of aquatic resources in southeast Alaska. Increasing demand from commercial and non-commercial uses of Alaska's aquatic resources, climatic changes, and threat from farm raised Atlantic salmon may impact the quality of aquatic resources in southeast Alaska that provide an important economic benefit to Alaskan communities. PNW will increase R&D efforts to understand and predict the interaction of these trends with aquatic systems and potential impacts on these important resources.
- Fire management. Forest Service models have not met Alaska needs. Fire behavior models will be developed for Alaska to assist with fires and fuels management decisions.
- Science-based Technology Transfer. Forest Service Research and Development will lead an Agency-wide effort to optimize the delivery and practical use of research findings. This is essential to successful implementation of Forest Service priorities, including the President's Healthy Forest Initiative. Opportunities have been identified that leverage current science and technology applications efforts in healthy forests applied science, watershed management, invasive species, hazardous fuels utilization and management, and community preparedness. New funds in FY 2005 will be targeted to leading-edge technical assistance on a competitive basis.

SIGNIFICANT RESEARCH PRODUCTS:

- In knowledge of the unique role steep headwater streams in southeast Alaska play in the life of salmon and trout is guiding management decisions effecting nutrients in these watersheds that are important to maintaining fish abundance.
- Release of a textbook, Compatible Forest Management, provides guidance to approaches to forest management that result in compatible production of a variety of goods and services from forests.
- Information developed on wetland soils was applied by the U.S. Army Corps of Engineers in cooperation with the Alaska Department of Environmental Conservation to assess and rate southeastern Alaska wetlands and is currently in use by land managers, planners, researchers, and private industry.

- Identification and evaluation of market opportunities for Alaska's commercial forest products increase opportunities for value added product production and economic development in Alaska.
- Knowledge developed on three primary types of crediting rationing assist policy makers in targeting credit resources toward at-risk segments of the industry.
- Identification of consumer willingness to pay a premium price for Alaska-made products is guiding development of a secondary wood products industry in Alaska.
- Development of specialty structural grades for Alaskan softwood species is increasing value and market potential for railroad ties, timber bridges, and fence posts from Alaskan species.

SOME CLIENTS/COLLABORATORS:

Alaska Department of Commerce and Economic Development

Alaska Department of Environmental Conservation

Alaska Department of Fish and Game

Alaska Department of Natural Resources

Alaska Forest Association

City and Borough of Sitka

Douglas Island Pink and Chum, Inc.

Eastern Cereal and Oilseed Research Center

Exxon Valdez Oil Spill Trustee Council

Humboldt State University

University of Alaska, Fairbanks